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NOTE

From: General Secretariat of the Council
To: Delegations
Subject: Outbreak of Legionnaires' disease in Portugal
- Information from the Portuguese delegation

Delegations will find in the Annex an information note from the Portuguese delegation on the above subject, which will be discussed under "Any other business" at the Environment Council meeting on 17 December 2014.

Outbreak of Legionnaires' disease in Portugal

- Information from the Portuguese delegation -

The outbreak

Last November, the third largest outbreak of Legionnaires' disease in the world occurred in Portugal. Of the 336 reported cases, 10 people died. Health authorities were immediately alerted and a Task Force was set up, headed by the Minister for Health with the participation of the Minister for the Environment.

Since the early outbreak investigation, and according to the data collected, several potential sources of infection have been addressed in the area with the highest concentration of occurrences (in the municipality of Vila Franca de Xira), namely the water supply systems, HVAC (heating, ventilation and air conditioning) systems and cooling towers.

Water supply system (network)

Analysis of the records of samples tested by the water supplier (EPAL) since January confirmed that there was no legionella present in any point of the EPAL supply system to municipalities or of the Lisbon distribution network. Nevertheless, the Portuguese authorities decided to implement the following preventive measures:

- 1) Increase free residual chlorine levels in the EPAL network to a minimum of 0.6 mg/l.
- 2) Recommend home preventive measures (disinfection of showers and elevation of the hot water temperature in water heaters to above 75°C).

HVAC systems and cooling towers

Water samples were collected from the industrial cooling towers which were identified as possible sources of aerosol emissions. Some samples showed positive results.

It was therefore decided to immediately close the cooling towers of industries that showed positive results and to carry out culture tests to determine if there was a match between human and environmental species.

The test results identified one source of contaminated aerosols.

This information – in particular the sample reports and the genome sequencing reports – was sent to the Public Prosecutor's Office, which will assess whether there are grounds for classifying the situation as an environmental crime. The judicial proceedings will take place in due course.

Air quality and meteorological conditions

Unusual and exceptional meteorological conditions and the composition of the atmosphere may have leveraged the impact of the outbreak, caused by an industrial source located to the northeast (NE) of the affected area, due to:

- the persistence of air masses from the Sahara and Sahel deserts containing high amounts of particulate matter;
- high levels of particulate matter (PM10), in some cases above the maximum concentration value established as the air quality daily limit for this pollutant (50 µg/m³);
- low-speed north-east wind and high stability of the atmosphere with inversion of the surface temperature;
- high humidity, in some cases close to 90 %, especially at night.

Actions taken

- Monitoring patients and carrying out epidemiological surveys in order to geo-reference epidemiological data;
- Cleaning and disinfecting the public reservoirs supply and environmental sampling in the cooling towers of the main companies in the affected areas;
- Collecting water samples from the public supplier network, from Vila Franca de Xira's hospital, and at the houses of patients infected with legionella in the area with the highest density of occurrences;
- Collecting new water samples in shopping malls, hypermarkets and car wash stations. Undertaking surveys at hotels;
- Providing notification under the Early Warning and Response System (EWRS) and to the World Health Organisation (WHO), and maintaining contact with the European Centre for Disease Prevention and Control (ECDC);
- Holding an information meeting with the management and employees of the company identified as the source of the outbreak;
- Carrying out environmental inspections at some other companies in the affected area;
- Setting up a working group for modelling the epidemic curve of the outbreak;
- Carrying out a technical analysis of atmospheric dispersion scenarios.

Request for action at EU level (industrial licensing)

Licensing of economic enterprises aims to prevent risks associated with their activities, in order to protect and ensure public and workers' health and the safety of people and property, as well as to preserve the quality of the environment in a framework of sustainable development and corporate social responsibility.

Using cooling systems as auxiliary units is very common in the majority of enterprises. Therefore, it is important to define measures and conditions of operation, maintenance and control of those systems in the respective licensing processes.

Under the Industrial Emissions Directive (IED), the European Commission has adopted reference documents (BREF) on best available techniques (BAT), including one which highlights the best available techniques applicable to industrial cooling systems.

That document identifies a set of techniques and best practices for the industrial application of cooling systems in order to reduce the emissions associated with their operation.

Considering that the BREF document concerning industrial cooling systems was adopted in 2001 and that it stipulated a deadline for its revision of three years, it is urgent to initiate the process for reviewing/updating the BREF, taking into account technological and scientific progress.

However, a revision/update of the BREF will not be sufficient to effectively regulate this type of equipment and system, since it only covers a small percentage of establishments using them.

Thus, we should identify other regulatory instruments that can be applied to industrial facilities not covered by Annex I of the IED and to other economic activities.

Another possibility could be to develop specific legislation covering industrial cooling systems, regardless of their integration into different types of industrial plants or other economic activities.

Finally, Portugal supports the development of a new legal instrument for this type of equipment and system taking into account the three dimensions of the issue – environment, health and working conditions.
